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1 **Editorial: Registered Reports at "Quality of Life Research"**

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Quality of Life Research is an international and multidisciplinary journal committed to the dissemination of original research, theoretical articles and methodological reports related to the field of quality of life in all the health sciences. This mission requires that the editorial team reviews publishing trends and formats across disciplines, to identify how we can better serve our research community and target audience. "Registered Reports" [1] are a new format developed in one of our contributing fields, psychology. The format is a reaction to the tendency of scientific publishing to focus on manuscripts that present surprising or 'statistically significant' results, which increases the chances of publishing false-positive findings and incentivizes diverging from good scientific principles [2,3]. Registered Reports focus instead on a manuscript's theoretical foundation and adherence to a prospectively planned research process.

A Registered Report is a paper written, submitted and accepted before data collection commences. This format enables researchers to focus on the theoretical soundness of the research and the prospective justification of the chosen approach. The review process in turn focuses on the theoretical arguments and contribution of the study as well as the appropriateness of the prospectively declared procedures, methods and analyses. The submission process is consequently structured in two phases. At Stage 1, authors submit manuscripts comprising (i) a fully written background section, which should clearly lead to the research question and planned methods; and (ii) the methods section, which presents the exact proposed procedures, methods and analyses. It also provides a rationale for the chosen methods and criteria for interpreting the results in light of the research question. The reviewers at Stage 1 evaluate the soundness of the research question, feasibility of the methodology, and quality and reproducibility of the planned research (e.g., adherence to appropriate reporting guidelines; clarity of procedures; submitted syntax for the analyses). A paper that passes peer-review at this stage will receive an "in-principle acceptance", i.e. the article will be published pending successful study completion.

At Stage 2, the authors submit a final version of the manuscript once the data are collected. The registered version remains largely unchanged, but includes the addition of the actual results obtained in the study. The authors provide a discussion which interprets the results in light of the registered background and defined criteria; potentially adding developments in the field since the registration; and other typical parts of a discussion section. A rejection of a registered report at this stage would be

unusual. Reasons for rejection would be deviations from the original registered plan; the registered report is altered other than only adding results; or the discussion and interpretation of the main findings does not focus sufficiently on the registered objectives. More details about the process and expectations can be found in the journal's submission guidelines.

We are optimistic that Registered Reports fit well with our community standards. First, Registered Reports are relevant in the wider research policy landscape beyond psychology or the social sciences. A substantial proportion of the annual investment in biomedical research is wasted [4], primarily due to the way research is designed, conducted, and analyzed; the way research is regulated and managed; the lack of publication of results; and the poor reporting of research that is published (e.g., REduce research Waste And Reward Diligence initiative; <http://rewardalliance.net/>; [5]). Registered Reports are one tool to address these challenges. Taking the example of patient reported outcome research, the poor quality of protocols for, and reporting of results from, clinical research have been highlighted in several reviews [6-9]. This contributes to research waste and, importantly, limits the extent to which patient-reported outcome data can inform clinical practice.

Second, a key pragmatic advantage of Registered Reports is that the publication of results can be secured in an early phase of the research: Once a Registered Report has been accepted and the project is completed as registered, the results will be published. Third, research published with Quality of Life Research often requires ethics applications, protocols and statistical analysis plans. These are all written prospectively but remain often unpublished. Preparing a Registered Report alongside these standard processes uses this investment more productively and potentially helps focus critical thinking with regards to the study design and 'frontload' activity into the preparatory phase of the research when it is essential. For smaller projects which do not have the capacity to produce published protocols or other evidence of prospective planning, a Registered Report fulfils all these functions and additionally secures the publication.

Fourth, while (health-related) quality of life is a key dimension for the evaluation of health care and interventions, and patient-reported outcomes are a key representation of the patient perspective, their inclusion and reporting in trials, cohort studies and other research remains limited [10,8,11]. While a lot of effort is put into planning studies for their respective primary outcomes (sample size, prospective

registration, publication of detailed analysis plans), less effort is dedicated to secondary outcomes. But these are often the outcomes most interesting to our readership and community. Providing a secure route to publication of such results will be attractive to researchers working on such outcomes.

Finally, Registered Reports focus on planning and conducting high quality research, while removing the need to produce "statistically significant" results. While this is of benefit to all, it may be especially beneficial for PhD students and early career researchers: Registered reports are guaranteed publications as long as the research is undertaken as outlined in the registration. Registered reports would count early on towards a researcher's track record before the completion of the research and the traditional publication of the final paper [12].

Registered Reports are now increasingly adopted by journals. The Centre for Open Science lists more than 260 participating journals (<https://www.cos.io/rr>; 09/2020); the number of published Registered Reports is sufficient to enable meta-research [13,14]; and while originally focused on quantitative research, efforts to extend the approach to qualitative research are underway [15]. With both Co-Editors in Chief being psychologists by background, it is not surprising that one made Registered Reports a key theme of his editorship (JRB, 2017) and the other "Research Waste in Quality of Life Research" (CR, 2019; see our call for papers for "Reducing research waste in (health-related) quality of life research"). For us both, it is a great pleasure to announce that Quality of Life Research now offers a Registered Reports format. And Quality of Life Research will continue to accept submissions covering a wide range of scientific methodologies.

Last but not least, we want to thank the Board of Directors of the International Society for Quality of Life Research for their support in getting this initiative underway and a number of individuals who contributed feedback, suggestions, arguments and language for our submission guidelines, including members of the editorial board (WAITING FOR APPROVAL OF ACKNOWLEDGEMENTS AT POINT OF SUBMISSION), the editorial team of the Journal of Patient Reported Outcomes (WAITING FOR APPROVAL OF ACKNOWLEDGEMENTS AT POINT OF SUBMISSION), the trailblazer for this publishing format (WAITING FOR APPROVAL OF ACKNOWLEDGEMENTS AT POINT OF SUBMISSION), and our publishing contacts at Springer Nature (WAITING FOR APPROVAL OF ACKNOWLEDGEMENTS AT POINT OF SUBMISSION).

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